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(71)Applicant: NITTO CHEM IND CO LTD

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(72)Inventor: YAMAMOTO HIROSHI
TAKAYANAGI YASUYUKI

(54) PRODUCTION OF IMINODISUCCINIC ACID AND ITS ALKALI METAL SALT AND A BIODEGRADABLE CHELATING AGENT CONTAINING THE SAME

(57)Abstract:

PURPOSE: To obtain high-purity (free from D,D-form) iminodisuccinic acid and an alkali metal salt thereof in high yield and in a short reaction time compared to the conventional processes therefor.

CONSTITUTION: A tetraalkali metal salt of iminodisuccinic acid is obtained by adding a half ester of maleic acid to aspartic acid or ammonia under an alkaline condition followed by hydrolysis and evaporation to dryness. The second objective iminosuccinic acid is obtained by the above addition reaction followed by hydrolysis and then addition of sulfuric acid (without conducting an evaporation to dryness). In the above processes, use of L-aspartic acid in place of the ordinary aspartic acid produces D,D-form-free iminodisuccinic acid and tetraalkali metal salt thereof. Or, L,L-iminodisuccinic acid is selectively obtained by prior crystallization and/or washing of a mixture of the L,L-form and D,D- form of iminodisuccinic acid or a tetraalkali metal salt thereof. And, the other objective biodegradable chelating agent contains, as active ingredient, the D,D- form-free

iminodisuccinic acid and/or an alkali metal salt thereof.

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